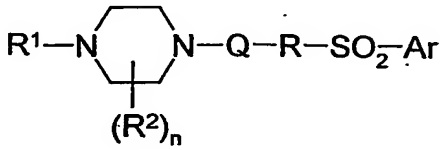
Patent claims:

1. An N-[(piperazinyl)hetaryl]arylsulfonamide compound of the general formula I



(I)

in which

R is oxygen, a group N-$R^3$ or a group $CR^{3a}R^{3b}$;

Q is a bivalent, 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents $R^a$ which is/are selected, independently of each other, from halogen, CN, $NO_2$, $CO_2R^4$, $COR^5$, $C_1$-$C_4$-alkyl, $C_1$-$C_4$-alkoxy, $C_1$-$C_4$-haloalkyl, $NH_2$, $NHR^6$, $NR^6R^7$ and $C_1$-$C_4$-haloalkoxy;

Ar is phenyl or a 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents $R^b$, which is/are selected from halogen, $NO_2$, CN, $CO_2R^4$, $COR^5$, $NH_2$, $NHR^6$, $NR^6R^7$, $C_1$-$C_6$-alkyl, $C_1$-$C_6$-haloalkyl, $C_1$-$C_6$-alkoxy, $C_1$-$C_6$-haloalkoxy, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkoxy, $C_3$-$C_6$-cycloalkyl-$C_1$-$C_4$-alkyl and $C_1$-$C_4$-haloalkyl, with it also being possible for two radicals $R^b$ which are bonded to adjacent C atoms of Ar to be together $C_3$-$C_4$-alkylene;

n is 0, 1 or 2;

$R^1$ is hydrogen, $C_1$-$C_4$-alkyl, $C_1$-$C_4$-haloalkyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkyl-$C_1$-$C_4$-alkyl, $C_1$-$C_4$-hydroxyalkyl, $C_1$-$C_4$-alkoxy-$C_1$-$C_4$-alkyl, $C_3$-$C_4$-alkenyl or $C_3$-$C_4$-alkynyl;

$R^2$ is $C_1$-$C_4$-alkyl or, together with $R^1$, is $C_2$-$C_5$-alkylene or, in the case of n = 2, the two radicals $R^2$ can together be $C_1$-$C_4$-alkylene;

$R^3$ is hydrogen or $C_1$-$C_4$-alkyl;

$R^{3a}$, $R^{3b}$ are, independently of each other, hydrogen or $C_1$-$C_4$-alkyl;

$R^4$ is $C_1$-$C_4$-alkyl, $C_1$-$C_4$-haloalkyl, $C_2$-$C_4$-alkenyl $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkyl-$C_1$-$C_4$-alkyl, phenyl or benzyl; and

$R^5$ is hydrogen, $C_1$-$C_4$-alkyl, $C_1$-$C_4$-haloalkyl, $C_2$-$C_4$-alkenyl $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkyl-$C_1$-$C_4$-alkyl, phenyl or benzyl;

$R^6$, $R^7$ are each independently selected from $C_1$-$C_4$-alkyl, $C_1$-$C_4$-haloalkyl or together with the nitrogen to which they are bound form a saturated 3-, 4-, 5- or 6-membered heterocycle, which additionally may comprise an oxygen atom or an additional nitrogen atom as a ring member and which may carry 1, 2, 3 or 4 $C_1$-$C_4$ alkyl groups;

the N-oxides thereof and the physiologically tolerated acid addition salts of these compounds;

with the exception of the compounds: 4-methyl-N-[6-(4-methylpiperazin-1-yl)pyridin-3-yl)benzenesulfonamide and 4-chloro-N-[6-(4-methylpiperazin-1-yl)pyridin-3-yl)benzenesulfonamide.

2. The compound as claimed in claim 1, wherein R is N-$R^3$ with $R^3$ being H or $C_1$-$C_4$-alkyl.

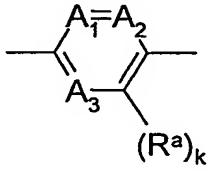
2. The compound as claimed in claim 2, wherein

Q is a bivalent, 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents $R^a$ which is/are selected, independently of each other, from halogen, CN, $NO_2$, $CO_2R^4$, $COR^5$, $C_1$-$C_4$-alkyl and $C_1$-$C_4$-haloalkyl and

Ar is phenyl or a 6-membered heteroaromatic radical which possesses 1 or 2 N atoms as ring members and which optionally carries one or two substituents $R^b$, which is/are selected from halogen, $NO_2$, CN, $CO_2R^4$, $COR^5$, $C_1$-$C_6$-alkyl, $C_2$-$C_6$-alkenyl, $C_2$-$C_6$-alkynyl, $C_3$-$C_6$-cycloalkyl, $C_3$-$C_6$-cycloalkyl-$C_1$-$C_4$-alkyl and $C_1$-$C_4$-haloalkyl, with it also being possible for two radicals $R^b$ which are bonded to adjacent C atoms of Ar to be together $C_3$-$C_4$-alkylene.

3. The compound as claimed in claim 1, in which the piperazine ring is bonded to the heteroaromatic radical Q in the para position in relation to the group R-$SO_2$-Ar.

4. The compound as claimed in one of the preceding claims, in which Q is a radical of the formula

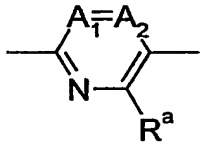


in which $A_1$, $A_2$ and $A_3$ are, independently of each other, N or CH, one or two of the variables $A_1$, $A_2$ and $A_3$ can also be C-$R^a$, k = 0 or 1 and $R^a$ is selected from halogen, $C_1$-$C_4$-alkyl, $C_1$-$C_4$-haloalkyl, $C_1$-$C_4$-alkoxy, $NH_2$, $NHR^6$, $NR^6R^7$ and $C_1$-$C_4$-haloalkoxy, with $A_1$, $A_2$ and $A_3$ not simultaneously being N or simultaneously being selected from CH and C-$R^a$.

5. The compound as claimed in claim 4, in which $A_3$ is nitrogen, $A_2$ is CH and $A_1$ is N or CH and wherein the piperazine radical is located in the 2 position.

6. The compound as claimed in claim 5, in which Q is pyridin-2,5-diyl which carries the piperazine radical in the 2 position.

7. The compound as claimed in claim 5, in which Q is a radical of the formula



in which $A_1$ and $A_2$ are, independently of each other, N or CH and $R^a$ is selected from , $C_1$-$C_4$-alkoxy, $NH_2$, $NHR^6$, $NR^6R^7$ and $C_1$-$C_4$-haloalkoxy.

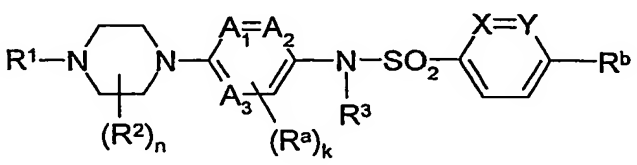
8. The compound as claimed in claim 7, in which $A_1$ is N or CH and $A_2$ is CH and wherein the piperazine radical is located in the 2 position.

9. The compound as claimed in one of the preceding claims, in which the radical Ar carries a substituent $R^b$ in the para position and, where appropriate, a further substituent $R^b$ in the meta position or in the ortho position, in each case based on the binding site of the sulfonamide group.

10. The compound as claimed in one of the preceding claims, in which Ar is phenyl or pyridyl, which radicals possess, where appropriate, one or 2 $R^b$ substituents.

11. The compound as claimed in one of the preceding claims, in which $R^1$ is different from hydrogen and methyl.

12. The compound as claimed in claim 1 of the general formula Ia



(Ia)

in which n, $R^1$, $R^2$, $R^3$, $R^a$ and $R^b$ have the meanings given in claim 1 and in which either

$A_1$, $A_2$ and $A_3$ are, independently of each other, N or CH and one or two of the variables $A_1$, $A_2$ and $A_3$ can also be C-$R^a$, with $A_1$, $A_2$ and $A_3$ not simultaneously being N or simultaneously being selected from CH and C-$R^a$,

X and Y are selected from CH, C-$R^{b'}$ and N, in which $R^{b'}$ is halogen, methyl, CN, difluoromethyl or trifluoromethyl, with X and Y not simultaneously being N or simultaneously being C-$R^{b'}$, and

k is 0 or 1.

13. The compound of the formula Ia as claimed in claim 12, in which k = 0, with $A_1$, $A_2$ and $A_3$ being, independently of each other, N or CH and $A_1$, $A_2$ and $A_3$ not simultaneously being N or simultaneously being CH.

14. The compound of the formula Ia as claimed in claim 13, in which $A_1$ is CH or N, $A_2$ is CH and $A_3$ is N.

15. The compound of the formula Ia as claimed in claim 12, in which k is 1, $A_1$ is CH or N, $A_2$ is CH and $A_3$ is N, and $R^a$ is selected from , $C_1$-$C_4$-alkoxy, $NH_2$, $NHR^6$, $NR^6R^7$ and $C_1$-$C_4$-haloalkoxy and $R^a$ is bound to the carbon atom adjacent to $A_3$.

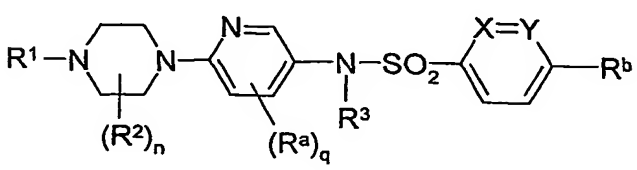
16. The compound of the formula Ia as claimed in any of claims 12 to 15, in which n is 0 or 1 and, in the case of n = 1, $R^2$ is bonded to the C atom of the piperazine ring which is adjacent to the group $R^1$-N and is a methyl group having the S configuration.

17. The compound of the formula Ia as claimed in one of claims 12 to 16, in which the radical Ar carries a substituent $R^b$ in the para position and, where appropriate, a further substituent $R^b$ in the meta position or in the ortho position, in each case based on the binding site of the sulfonamide group.

18. The compound of the formula Ia as claimed in one of claims 12 to 17, in which Ar is phenyl or pyridyl, which radicals possess, where appropriate, one or 2 $R^b$ substituents.

19. The compound of the formula Ia as claimed in one of claims 12 to 18, in which $R^1$ is different from hydrogen and methyl.

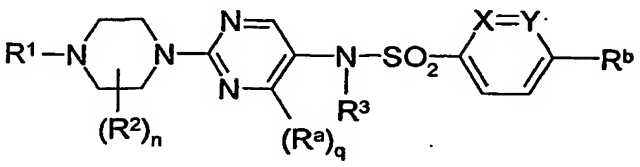
20. The compound of the formula Ia as claimed in one of claims 12 to 19, of the general formula Ia.1



(Ia.1)

in which n, X, Y, $R^1$, $R^2$, $R^3$, $R^a$ and $R^b$ have the meanings given in claim 12 and q is 0, 1 or 2.

21. The compound of the formula Ia as claimed in one of claims 12 to 19, of the general formula Ia.2

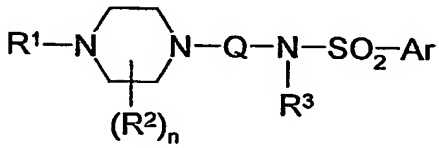


(Ia.2)

in which n, X, Y, $R^1$, $R^2$, $R^3$, $R^a$ and $R^b$ have the meanings given in claim 12 and q is 0 or 1.

22. A pharmaceutical composition which comprises at least one N-[(piperazinyl)hetaryl]arylsulfonamide compound as claimed in one of claims 1 to 21 and/or at least one physiologically tolerated acid addition salt of I and/or an N-oxide of I, where appropriate together with physiologically acceptable carriers and/or auxiliary substances.

23. The use of at least one N-[(piperazinyl)hetaryl]arylsulfonamide compound of the formula I



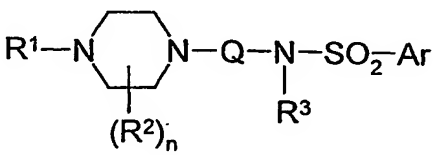
(I)

in which Q, Ar, n, $R^1$, $R^2$ and $R^3$ have the previously mentioned meanings, of the N-oxides thereof and of the physiologically tolerated acid addition salts thereof for producing a pharmaceutical composition for treating diseases which respond to influencing by dopamine $D_3$ receptor antagonists or dopamine $D_3$ agonists.

24. The use as claimed in claim 23 for treating diseases of the central nervous system.

25. The use as claimed in claim 23 for treating kidney function disturbances.

26. A method for treating a medical disorder susceptible to treatment with a dopamine $D_3$ receptor antagonist or a dopamine $D_3$ agonist, said method comprising administering an effective amount of at least one compound of the formula I



(I)

in which Q, Ar, n, $R^1$, $R^2$ and $R^3$ have the previously mentioned meanings, or the N-oxides thereof or the physiologically tolerated acid addition salts thereof to a subject in need thereof.

27. The method as claimed in Claim 26, wherein the medical disorder is a disease of the central nervous system.